BY ORDER OF THE COMMANDER
30TH SPACE WING

30TH SPACE WING INSTRUCTION 40-101

30 SEPTEMBER 1998

Medical Command

MANAGING RADIOACTIVE MATERIAL ON VANDENBERG AFB

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction provides guidance, procedures, precautionary measures, and responsibilities for the control of radioactive material (RAM) on Vandenberg Air Force Base (AFB). It sets up approval and coordination procedures and gives direction for proper licensing of radioactive materials. This instruction gives guidance for transporting, handling, storage, possession, and disposal of radioactive materials, excluding disaster control operations. It implements AFI 40-201, *Managing Radioactive Materials in the USAF; Air Force*, Technical Order (T.O.) 110N series (safety and control requirements in the radiation field); Code of Federal Regulation (CFR), Title 10, *Energy*; Title 40 CFR, *Environmental Protection*; Title 49 CFR, *Transportation*, and the Uniform Code of Military Justice (UCMJ), Article 92. **Attachment 1** explains glossary and terms used. **Attachment 2** explains Responsibilities and Function of 30 SW Radiation Safety Committee (RADSAFCOM), and **Attachment 3** is Maintaining Ionizing Radiation Exposure As Low As Reasonably Achievable (ALARA). This instruction applies to all assigned, attached, tenant units, and contractors who posses, use, or handle sources of RAM within the confines of Vandenberg AFB. The Paperwork Reduction Act of 1974 as amended in 1996 and AFI 37-160, Volume 8, *The Air Force Publications and Forms Management—Developing and Processing Forms*, affects this publication.

SUMMARY OF REVISIONS

The revision of this publication is to meet the format standards required by the Air Force. No content material has changed. Some required format changes have been made to allow for the conversion process. Paragraphs have been renumbered to fit the new format.

1. Responsibilities:

1.1. Commander, 30th Space Wing (30 SW/CC) or a designated representative:

1.1.1. Establishes a Radiation Safety Committee **(**see **Attachment 2**).

1.1.2. Has final responsibility for the Vandenberg AFB Radiation Safety program.

1.1.3. Appoints a Base Radiation Safety Officer (BRSO) to advise on the control of RAM in accordance with AFI 40-201. The RSO is usually the Health Physicist or Bioenvironmental Engineer qualified in health physics assigned to the Medical Group.

1.1.4. Enforces AFI 40-201 for non-Air Force organizations, including other Department of Defense (DoD) organizations, Department of Energy (DoE) organizations, DoE contractors, and other contractors who bring or use RAM on Vandenberg AFB. All organizations must have either a proper Nuclear Regulatory Commission (NRC) License, DoE Authority Document, a State License with a Form 241, **Reciprocity Statement**, or a United States Navy Radioactive Material permit.

1.1.5. Ensures ionizing radiation exposure is maintained as low as reasonably achievable (ALARA), **(**see **Attachment 3)**.

1.1.6. Written approval from HQ AFMOA/SGOR to use RAM on Vandenberg AFB.

1.2. Commander, 30th Medical Group (30 MDG/CC):

1.2.1. Establishes policies for the control of RAM.

1.2.2. Advises 30 SW and tenant unit commanders on radiological health and safety including health aspects of nuclear disaster control.

1.3. All Other Commanders:

1.3.1. Ensure unit personnel or contractors who receive, possess, distribute, use, transfer, or dispose of permitable or licensable RAM have a United States Air Force (USAF) Permit, DoE Authority Document, NRC License or State License.

1.3.2. Ensure personnel who use RAM meet training requirements outlined in 10 CFR 19, 20, 21, and 35 and AFI 40-201.

1.3.3. Follow posting and notification rules in AFI 40-201, 10 CFR 19 and 10 CFR 20.

1.3.4. Appoint a Unit Radiation Safety Officer (URSO) in writing annually to the Base Radiation Safety Officer (BRSO) for all organizations who possess RAM or devices.

1.4. Base Radiation Safety Officer (BRSO) or designee:

1.4.1. Serves as a member of 30 SW Radiation Safety Committee (RADSAFCOM).

1.4.2. Provides technical assistance to the Commander, 30 MDG, and assigned base and tenant units on the radiological health aspects of the use of RAM.

1.4.3. Provides technical information and aid to Public Affairs on all incidents, and plans involving RAM.

1.4.4. Advises users of RAM on 10 CFR and AFI 40-201 requirements plus any requirements stated on permits or licenses held by a using agency or contractor.

1.4.5. Central point of contact for all requests to use RAM or devices on Vandenberg AFB. Reviews and approves or disapproves all requests for the use of RAM on Vandenberg AFB under an existing NRC or State license.

1.4.6. Provides guidance to requesting agencies on action necessary to meet USAF, NRC or State requirements.

1.4.7. Approve or disapprove RAM use on Vandenberg AFB with respect to licensing, training, health and safety requirements.

1.4.8. Performs monitoring and or radiation surveys for the receipt, shipment, transfer, and use of Air Force owned or operated RAM.

1.4.9. Evaluates doses to AF personnel with a suspected abnormal or overexposure and reports evaluation to HQ AFMOA/SGOR.

1.4.10. Conducts as low as reasonably achievable (ALARA) training to military and civil service personnel who use RAM.

1.4.11. Investigates RAM incidents.

1.4.12. Conducts semiannual inspections of all USAF Radioactive Material Permits to ensure compliance with their terms and conditions.

1.4.13. Conducts semiannual risk based inventories of all RAM on Vandenberg AFB.

1.4.14. Advises the Fire Department of the radiological health hazards associated with RAM in the event of a fire involving RAM.

1.4.15. Supports 30th Transportation Squadron (30 TRNS) personnel on storage, shipping and receiving procedures for RAM in accordance with 49 CFR.

1.4.16. Monitors, swipes, and surveys all AF radioactive packages being shipped from or to Vandenberg AFB (including excepted packages as instruments and articles). Levels must be below the limits specified in 49 CFR.

1.4.17. Monitors all Joint Test Assembles (JTA) at their storage locations.

1.4.18. Periodically surveys and monitors radiographic contractor operations being performed on Vandenberg AFB. **NOTE**: Contractors are responsible for their own personnel and environmental radiation monitoring according to 10, 29, 40 and 49 CFRs. Air Force monitoring of contractor activities is limited to evaluating compliance with this instruction and Air Force policy.

1.5. Transportation Officer (30 TRNS/CC):

1.5.1. Ensures there is a separate, secure area for the storage of Type A and B packages awaiting shipment.

1.5.2. Requests disposition instructions for the shipment of radioactive waste material per Technical Order (T.O.) 00-110N-2, paragraph 8; and informs the BRSO of the receipt of disposition instructions.

1.5.3. Reports all discrepancies of packaging for shipment to URSO.

1.5.4. Ensures the shipping containers are monitored by the BRSO before shipment of RAM per T.O. 00-110N-2 and 49 CFR.

1.5.5. Ensures personnel working in RAM packaging and shipping areas are trained by the BRSO on the requirements of 49 CFR.

1.6. Material Storage/Distribution Flight (30 LSS/LGSD):

1.6.1. Ensures there is a separate, secure area for the receipt and storage of Type A and B.

1.6.2. Notifies the BRSO upon receipt of RAM.

1.6.3. Upon receipt of RAM, ensures the shipping container is monitored by the BRSO.

1.6.4. Reports discrepancies in packaging, labeling, etc., of all RAM received per T.O. 00-110N-2, paragraph 9d, to the BRSO.

1.6.5. Ensures personnel working in RAM receiving or storage areas are trained in the safe handling and storage of RAM by the BRSO.

1.7. Unit Radiation Safety Officer (URSO):

1.7.1. Obtains written approval for the use, storage, and handling of RAM or devices from the BRSO.

1.7.2. Central point of contact for organizations or agencies who use RAM.

1.7.3. Inform the BRSO of any new RAM obtained. Provide 30 SW Safety with sufficient data to satisfy the requirements of Eastern Western Range (EWR) 127-1, *Range Safety Requirements*, and AFI 91-110/30 SW1, *Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems*, regarding RAM, and provide an oral presentation to the 30 SW Radiation Safety Committee (RADSAFCOM).

1.7.4. Identify all restrictive radiation areas per 10 CFR 20.1902 and T.O. 00-110N-7. Entry into these areas must be controlled.

1.7.5. Notify the BRSO of any incident involving a potential exposure to personnel.

1.7.6. Notify the BRSO of any intent to move RAM to or from Vandenberg AFB or the movement of RAM within or off of Vandenberg AFB.

1.7.7. Ensure the required equipment and proper radiation monitoring devices (Thermoluminescent Dosimetry (TLD), pocket dosimeters) are utilized by personnel working in radiation areas.

1.7.8. Maintain an inventory and accountability <u>at all times for all RAM</u> within your possession.

1.7.9. Ensure the required training on the safe use, storage, handling, and disposal of RAM is conducted for all personnel who work with RAM.

1.7.10. Inform the BRSO of any changes in operating procedures for RAM.

1.7.11. Provide the BRSO with the most recent leak test and transfer documents when a new sealed RAM source is obtained. Some sealed sources are exempt from periodic leak tests; however, a leak test should be performed per 49 CFR whenever the RAM is shipped to ensure there is no removable contamination on the package prior to shipment.

1.7.12. Compile and maintain section specific operating instructions for using RAM.

1.7.13. Maintain exposures ALARA.

1.7.14. Report annual training, use, and inventory to organizational commander.

1.8. Users of Radioactive Material:

1.8.1. Ensure written approval for the use, storage, and handling of RAM or devices is obtained from the BRSO.

1.8.2. Inform the URSO of any new RAM or devices obtained.

1.8.3. Ensure all restrictive radiation areas are identified per 10 CFR 20.1902 and T.O. 00-110N-7. Entry into these areas must be controlled.

1.8.4. Notify the URSO of any incident involving a potential exposure to personnel.

1.8.5. Notify the URSO of any intent to move RAM to or from Vandenberg AFB or the movement of RAM within Vandenberg AFB.

1.8.6. Utilize the required equipment and proper radiation monitoring devices (TLD's, pocket dosimeters) when performing work in radiation areas.

1.8.7. Maintain inventory control and accountability at all times for all RAM. Provide a copy to the URSO upon request.

1.8.8. Complete the required training on the safe use, storage, handling, and disposal of RAM.

1.8.9. Inform the URSO of any changes in personnel working in radiation areas, or changes in operating procedures.

1.8.10. Ensure all new sealed sources obtained are accompanied with the most recent leak test and a transfer document upon arrival at Vandenberg AFB. These documents must be given to the BRSO.

1.8.11. Review section specific operating instructions and maintain exposures ALARA.

1.8.12. Ensure procedures are approved by 30 SW/SE prior to handling and processing of RAM.

1.8.13. Provide 30 SW Safety with sufficient data to satisfy the requirements of EWR 127-1, AFI 91-110 and AFI 91-110/30 SW1 regarding RAM, and provide an oral presentation to the 30 SW Radiation Safety Committee (RADSAFCOM).

1.9. Public Health (30 AMDS/SGPM): Assists the BRSO with implementation of the Air Force ALARA policy.

2. Licensing and Approvals:

2.1. A USAF Radioactive Material Permit, DoE Authority Document, NRC license or a State Radioactive license is required to possess licensable or permitable quantities of radioactive material**.** In certain cases, a USAF permit may be required for use of radioactive material on Vandenberg AFB, which may be exempt from inclusions in a specific license.

2.2. A NRC License or State Radioactive License with a Form 241, is required for most non-military uses of radioactive material on Vandenberg AFB. Reciprocity Statement Exceptions include the Department of Energy and its prime contractors.

2.3. To obtain approval to use a RAM on Vandenberg AFB the following procedure must be followed:

2.3.1. Contact the BRSO regarding the proposed use, the RAM involved, and the requirements which are being supported. The BRSO will inform the user of any new or special requirements and any required submittal not detailed in this section.

2.3.2. Submit to the BRSO a copy of the current NRC or State License with a Form 241, **Reciprocity Statement** including all amendments and compliance documents at least 10 working days prior to the proposed start of work. An approved NRC Form 241 allows no more than 180 days in

any calendar year. Agreement State licenses whose work will extend beyond 180 days must obtain a license from the NRC.

2.3.3. Submit a report detailing the proposed use of the radioactive material. The report should include the types and quantities of radioactive material, locations of use, handling procedures, and radiation safety procedures.

2.3.4. The BRSO will review the documentation and approve or disapprove the usage of the RAM on Vandenberg AFB.

3. USAF Radio Active Material Permit Process:

3.1. All Air Force users of non-exempt quantities of RAM must possess a USAF Radioactive Material Permit**.** The Air Force maintains a broadscope RAM license (Master Materials License) issued by the NRC which is administered by the Air Force Radioisotope Committee (HQ, AFMOA/SGOR) at Bolling AFB, DC. Permits issued by this committee allow the possession of specified quantities of RAM under the authority of the Air Force Master Materials License. The application for a permit must be submitted by the requester. The application should be prepared by the requester according to AFI 40-201.

3.2. Permittees desiring to renew an expiring Radioactive Material Permit must contact the BRSO at least 60 days prior to the permit expiration date. Renewal will consist of preparing and submitting a complete, stand-alone application to the USAF Radioisotope Committee following the same procedures as an initial application.

3.3. Permittees no longer requiring the use of RAM should transfer or dispose of all permitted material and initiate the termination of their existing permit. Termination or transfer guidelines are outlined in AFI 40-201, paragraph 3.15.

4. Radio Active Material Handling and Storage Guidelines:

4.1. Each receiving or shipping agency must have a separate, marked, and locked enclosure for handling or shipping of RAM packages**.** This area is needed to ensure personnel not familiar with the proper handling of RAM are accidentally exposed to RAM. This location must be coordinated with the BRSO.

4.2. All RAM which is covered by a license or permit must be accounted for by a RAM transfer receipt, which is separate from any contractual, security, or other receipt documents.

4.3. When RAM is received at, or is to be shipped from Vandenberg AFB, the receiving or shipping URSO must contact the BRSO.

4.4. If an industrial radiological monitor, as defined in T.O. 00-110N-3, paragraph 7, is not available to monitor the receiving or shipping containers, the BRSO will monitor the container. If the receiving or shipping agency is a contractor, the contractor must perform all labeling, packaging, and monitoring requirements outlined in 10 CFR and 49 CFR.

4.5. Sealed sources must have the most recent leak test results accompany the package. Some sealed sources are exempt from periodic monitoring per 10 CFR. If the leak test is not available, the BRSO or representative performs the leak test before shipment or monitors the source prior to distribution to the URSO. Contractors must perform their own leak test.

4.6. Once the package has been monitored and cleared by the BRSO, the URSO must be contacted and have the package transported to the storage location. If the URSO cannot be contacted, the RAM must be stored in a secure area until the URSO accepts receipt. Only authorized personnel will open or package containers of RAM.

4.7. If the RAM is to be transported from Vandenberg AFB, prepare for shipment using the proper containers and labels specified in 49 CFR. The package must be monitored and leak tested prior to transport by the BRSO.

4.8. All RAM must be kept in a RAM storage vault or a locked enclosure separate from other items to ensure personnel not familiar with RAM are not accidentally exposed to radiation. Proper storage techniques and labeling requirements are outlined in T.O. 00-11N-3 and 10 CFR Part 19, 20, and 21.

4.9. The BRSO must monitor restricted radioactive storage areas quarterly. Base Supply and Building 488 are currently the only restricted radioactive storage areas.

4.10. A radioactive storage area no longer being used must be monitored and surveyed by the BRSO. Written approval must be received by the BRSO before it may be used for other purposes.

5. Radio Active Material Movement:

5.1. To prevent unauthorized persons from moving radioactive material or movement to locations without adequate handling or storage facilities on-base, must be controlled.

5.2. URSOs or users of RAM must notify the BRSO, and the Fire Dispatcher 24 hours before RAM arrives at Vandenberg AFB, before movement of RAM from location to location, and before departure from Vandenberg AFB. The following information must be provided:

5.2.1. Name of company or organization holding the RAM license or permit.

5.2.2. Name of person making the notification.

5.2.3. Name and mass number of radioisotope.

5.2.4. Radioisotope activity in millicuries.

5.2.5. Specific location by Building and room number from where the RAM is being transferred and the location to where the RAM is going.

5.2.6. Date and time of movement.

5.2.7. Name and phone number of the RAM URSO.

5.3. Move RAM only in appropriately shielded and closed containers per 49 CFR for Type A and B packages. Containers in transit must bear the appropriate radiation symbol and tag showing necessary information for safety, including the material's physical and chemical state, the activity in millicuries, and the dose rate on the outer surface of the container.

5.4. All other RAM in transit must bear the appropriate radiation symbol and tag showing necessary information for safety, including the material's physical and chemical state, and the activity in millicuries.

6. Radio Active Material Disposition:

6.1. Disposition of RAM may only be carried out by transfer to another licensed agency or to a licensed disposal contractor.

6.2. To transfer RAM to another license, the URSO must give written notification to the BRSO of the final planned disposition of RAM transferred. Notification must include the radioisotope, activity, quantity and name of company receiving the RAM. The BRSO may also need a copy of the current license transferring the RAM.

6.3. Final disposition of launched RAM includes, but is not limited to, written notification the RAM was placed into orbit, the RAM was assumed to have burned up upon re-entry, or the RAM impacted deep water and is not retrievable.

6.4. All disposal actions will comply with the procedures outlined in 10 CFR, other applicable regulations, and accepted health physics practices.

6.5. Land burial of RAM is not permitted on Vandenberg AFB without specific approval of the BRSO and the USAF Radioisotope Committee, for permitted or licensed material.

6.6. Specific disposal procedures for Air Force owned RAM are specified in T.O. 00-110N-2.

6.7. The URSO is responsible for proper disposal of RAM.

7. Emergency Procedures:

7.1. A radiological emergency is defined as any unplanned or unexpected event which causes the release, escape, or spill of RAM that may result in the contamination of personnel, facilities, or environment or a public hazard, actual or perceived.

7.2. Notify the appropriate emergency agency (911) only if a fire, explosion or injury involving RAM has occurred.

7.3. Notify the project or area supervisor, 30 SW Safety, and BRSO for other emergencies.

7.4. If possible, shut down all operations which could be hazardous.

7.5. Evacuate personnel from the emergency area to a minimum radiation exposure area. This area must be predesignated.

7.6. Account for all personnel from the emergency area. Do not allow personnel to leave the assembly area until cleared by the BRS.

7.7. Personnel must give a full description on what happened, including circumstances, amount and type of isotope, number of personnel exposed, where the incident occurred, and an estimate of the extent of contamination.

7.8. Within 20 working days from the date of the incident, the BRSO must receive a complete written report from the URSO with a detailed description of the incident, a chronological description of how the incident was handled, and preventive measures taken to ensure the incident will not be repeated. A copy of the report filed with the NRC and RIC is adequate to meet this requirement.

7.9. A copy of any correspondence between a regulatory agency and the using agency regarding RAM is to be sent to the BRSO.

8. Industrial Radiography:

8.1. This guidance applies to both fixed and temporary radiographic operations performed on Vandenberg AFB.

8.2. Coordination of planned radiographic operations with scheduling agencies, facility supervisor, and BRSO is the responsibility of the radiographic contractor and the organization requesting the service**.** All operations must be approved by the BRSO prior to starting.

8.3. Radiographic devices must be properly licensed by the NRC or Agreement State. All radiographic operations must meet the requirements outlined in 10 CFR part 34, 21 CFR 1020.30 and T.O. 33B-1-1.

8.4. The radiographic contractor and requesting organization must inform the BRSO of planned radiographic operations no less than five days before planned operations, with additional notification upon arrival on Vandenberg AFB.

8.5. If the proposed operation is canceled, postponed, or the time is changed for any reason before starting the operation, the radiographer must notify the BRSO of such changes.

8.6. If any RAM or device is improperly or illegally transported onto Vandenberg AFB, such items may be impounded or removed and appropriate agencies notified.

8.7. The licensed radiographer and at least one other individual must be present during radiographic operations.

8.8. At least two calibrated radiation survey meters must be used for radiographic operations.

8.9. At all times during radiographic operations, each individual must wear a direct reading pocket dosimeter, an alarm rate meter, and either a film badge or a TLD.

8.10. Radiation-controlled areas must be properly posted with proper radiation hazard warning signs. Radiation hazard warning signs are described in 10 CFR 19. A controlled area is an area which radiation levels exceed 2 mR/hr. The signs must be placed at the 2 mR/hr boundary in sufficient numbers to adequately provide warning to personnel approaching from any direction.

8.11. Temporary field or job-site operations should have enough radiographic personnel to adequately monitor controlled areas for possible intrusion by unauthorized personnel.

8.12. Restraining barriers may be used in conjunction with appropriate radiation hazard warning signs to preclude access into the controlled area.

8.13. For night operations, radiation hazard areas must be lighted. Flashing red lights must identify the controlled area.

8.14. The BRSO will periodically monitor industrial radiography operations to ensure compliance with this instruction and 10 CFR 34.

8.15. If an unauthorized individual enters the controlled area the radiographer will:

8.15.1. Secure the RAM (put source into storage container, shut down machine).

8.15.2. Escort the individual out of controlled area.

8.15.3. Obtain the name, organization where individual works, and the supervisor’s phone number.

8.15.4. Notify the BRSO.

8.15.5. Record pertinent information to include: the time, date, length of time the individual was in the area, approximate maximum exposure level the individual was subjected to, and any other important information.

8.16. In the event of a radiological emergency which is defined as any unplanned or unexpected event which causes the release, escape, or spill of RAM, that may result in the contamination of personnel, facilities, environment or a public hazard, actual or perceived, the radiographer will secure the area and notify the BRSO.

9. Exemptions: . The following RAM and conditions of exposure are exempt from the radiological controls of this regulation:

9.1. Natural RAM exempted by the BRSO or the 30 SW (RADSAFCOM) in conjunction with the BRSO, on a case by case basis.

9.2. By-product, source, and special nuclear material in quantities or concentrations not greater than those specified as exempt in applicable NRC regulations and exempted from USAF permit requirements.

9.3. This does not include combinations of materials which will provide exposure to personnel above the limits established by the NRC and AFI 48-125, USAF Personnel Dosimetry Program.

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Commander, 30th Medical Group

Attachment 1

GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

References

AFI 32-4002, *Hazardous Material Emergency Planning and Response Compliance*

AFI 40-201, *Managing Radioactive Materials in the USAF*

AFI 40-403, *Clinical Investigations in Medical Research Guidance and Procedures*

AFI 48-125, *USAF Personnel Dosimetry Program*

AFI 91-110 and AFI 91-110/30 SW 1, *Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems*

AFI 91-301, *USAF Occupational Safety, Fire Protection, and Health Program*

AFJI 24-211, V4, *Defense Traffic Management Regulation: Transportation Facility Guide, Air Force*

Uniform Code of Military Justice, *Article 92*

AF T.O. 00-110N-2, *Radioactive Waste Disposal*

AF T.O. 00-110N-3, *Requisition, Handling, Storage and Identification of RAM*

AF T.O. 00-110N-7, *Handling and Disposition of Radioactive Electron Tubes and Spark Gaps*

AF T.O. 33B-1-1, *Nondestructive Inspection Methods*

CFR, Title 10, *Energy*

CFR, Title 21, *Food and Drugs*

CFR, Title 40, *Environmental Protection*

CFR, Title 49, *Transportation*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

ALARA—As Low As Reasonably Achievable

BRSO—Base Radiation Safety Officer

CFR—Code of Federal Regulations

DoE—Department of Energy

DoD—Department of Defense

JTA—Joint Test Assembly

MDG—Medical Group

RADSAFCOM—Radiation Safety Committee

RAM—Radioactive Materials

TLD—Thermoluminescent Dosimetry

T.O.—Technical Order

UCMJ—Uniform Code of Military Justice

USNRC—United. States. Nuclear Regulatory Commission

URSO—Unit Radiation Safety Officer

USAF—United States Air Force

Terms

Controlled Area—An area where the radiation limits exceed 2 mR/hr.

Radiological Monitor—Person who is trained by the BRSO responsible for monitoring suspected or known RAM and areas where RAM is stored or used.

Restricted Storage Area—RAM which exceed intensities in excess of 2 mR/hr at 1 meter from the container. It is also an electron tube storage area with greater than 100 tubes.

Attachment 2

RESPONSIBILITIES AND FUNCTION OF 30 SW RADIATION SAFETY COMMITTEE (RADSAFCOM)

A2.1. Criteria. The 30th Space Wing (30 SW) operates and maintains a national range in support of the Department of Defense (DoD) and other government agencies which are responsible for launching space and missile systems that may contain radioactive material. The 30 SW RADSAFCOM was established per AFI 40-201, to oversee the radiation safety program in support of the NRC licenses and USAF permits held by 30 SW and tenant units and to evaluate the potential radiological effects and impacts of launching or using radioactive material or ionizing radiation producing devices.

A2.2. Responsibilities:

A2.2.1. The Commander, 30 SW, per AFI 40-201:

A2.2.2. Appoints a Chairperson for the 30 SW RADSAFCOM who has the tie breaking vote in the event of a deadlock.

A2.2.3. Approves the activities of 30 SW RADSAFCOM, including the selection of members.

A2.2.4. Ensures that the rules and regulations as formulated by the RADSAFCOM are enforced.

A2.2.5. Reviews all applications for NRC licenses, license amendments, USAF permits, and permit amendments through the host base medical channels (30 AMDS/SGPB).

A2.2.6. Ensures the RADSAFCOM meets at least once per quarter, and that the minutes are distributed within 30 days of the meeting, with one copy to USAF Radioisotope Committee, HQ AFMOA/SGOR.

A2.2.7. Ensures that all using agencies working with radioactive materials covered under the NRC licenses and USAF permits held by 30 SW or tenant units are qualified to handle those commodities and comply with accepted health physics practices as recommended by the BRSO and as outlined in AFI 40-201, AFI48-125, Air Force Technical Order 110N Series, and Title 10 Code of Federal Regulations or Agreement State Directives.

A2.3. The Radiation Safety Committee (RADSAFCOM):

A2.3.1. Is directly responsible to the Commander, 30 SW, for the control of radioactive materials which are covered under the NRC License and USAF Permits held by 30 SW or tenant units, either prior to launch or at the time of launch.

A2.3.2. Reviews and evaluates Safety Analysis Summaries and Radiation Protection Plans involving the use of radioactive materials to ensure all applicable USAF, USNRC, and or Agreement State requirements are met before recommending approval to launch radioactive materials to 30 SW Safety.

A2.3.3. Develops policy and exercises authority over the field processing of radioactive materials to ensure the safe procurement, storage, use, recovery, and disposal of items which are controlled by the 30 SW.

A2.3.4. Provides a formal channel to process 30 SW launch approval for and disposition of radioactive materials which are used in 30 SW Space and Missile operations or which will be transferred to the NRC license or USAF permits held by 30 SW or tenant units.

A2.3.5. Serves as a consulting body for the use of radioactive materials or machines producing ionizing radiation.

A2.3.6. Consists of the following members:

A2.3.6.1. Chairperson.

A2.3.6.2. Base Radiation Safety Officer.

A2.3.6.3. Downrange Radiation Safety Officer.

A2.3.6.4. Recorder (30 SW/SES).

A2.3.6.5. Bioenvironmental Engineering Representative.

A2.3.6.6. Directorate of Range Operations.

A2.3.6.7. 30 SW Safety.

A2.3.6.8. Representative(s) of:

A2.3.6.8.1. Det 9, SMC.

A2.3.6.8.2. 576 FLTS.

A2.3.6.8.3. 30 CES Readiness Flight.

A2.3.6.8.4. 30 SW Program Planning.

A2.3.6.8.5. SA-ALC Aerospace Fuels Laboratory.

A2.3.6.8.6. 30 SW activities using radiation sources.

A2.3.6.8.7. Other organizations as deemed appropriate.

A2.3.7. Must meet at least once per quarter.

A2.3.8. Will ensure each member has a security clearance at a minimum level of Secret.

NOTE:

Each member appointed to the committee must have an alternate member to perform the duties of the primary member whenever absent.

A2.4. 30 SW/SE will:

A2.4.1. Advise the 30 SW Commander and 30 SW RADSAFCOM of new programs involving radioactive materials.

A2.4.2. Act as recorder for the 30 SW RADSAFCOM meetings, actions, coordination, recommendations, approvals and disapprovals.

A2.4.3. Conduct the RADSAFCOM meetings.

A2.4.4. Advise the committee chairperson when to convene the RADSAFCOM.

A2.4.5. Prepare all applications for NRC licenses, license amendments, USAF permits, and permit amendments for the 30 SW Commander's review before sending them through medical channels.

A2.5. Base Radiation Safety Officer (BRSO): See paragraph 2.4. of this instruction.

A2.6. Other Members. Will ensure their organizational areas comply with the NRC ALARA concept and perform duties as directed by the RADSAFCOM Chairperson.

Attachment 3

MAINTAINING IONIZING RADIATION EXPOSURE AS LOW AS REASONABLY ACHIEVABLE (ALARA)

A3.1. The 30 SW, Vandenberg AFB , is committed to maintaining occupational exposures to ionizing radiation as low as reasonably achievable (ALARA), considering the state of technology and the economics of improvements in relation to benefits to public health and safety (Title 10 Code of Federal Regulations, Part 20, Section 20). In order to implement the ALARA concept, each agency, organization, contractor and individual (hereafter referred to as the using agency) who uses or handles ionizing radiation materials or devices must make a concerted effort to:

A3.1.1. Consider ALARA concepts when reviewing operating procedures, past exposure records, inspections, etc., and in consultations with the respective radiation Safety staff or outside consultants.

A3.1.2. Ensure modifications to operating and maintenance procedures and to equipment and facilities result in reduced ionizing radiation exposure. The using agency must demonstrate to the Base RSO that improvements have been sought, that modifications have been considered, and that these modifications or improvements have been implemented. When improvements have been sought but not implemented, the using agency must submit in writing to the Base RSO the reason for not implementing the modifications.

A3.2. 30 SW Radiation Safety Committee (RADSAFCOM):

A3.2.1. Reviews the qualifications of each unit supported by 30 SW with respect to the types and quantities of materials and uses for which the using agency has applied to ensure that the ALARA concept will be carried out.

A3.2.2. Reviews the using agency's efforts to maintain exposure ALARA when considering a new use of by-product or source material. The user must have procedures to ensure exposures are ALARA and incorporate the use of special protective equipment, if needed.

A3.2.3. Ensures that all 30 SW supported using agencies annually review procedures and modifies those procedures and modifies those procedures as necessary to implement the ALARA concept. This must be coordinated with the Base RSO.

A3.3. Base RSO:

A3.3.1. Evaluates Vandenberg AFB's overall efforts to maintain exposure ALARA.

A3.3.2. Reviews the occupational radiation exposures in which areas where personnel monitoring is conducted to determine whether exposures are ALARA or investigate action must be taken (see **Paragraph 1.4.**).

A3.3.3. Investigates deviations from good ALARA practices and determines the cause. When the cause has been identified, recommends measures to keep exposure ALARA.

A3.3.4. Ensures that authorized users, workers, and ancillary personnel exposed to ionizing radiation are instructed in the NRC ALARA philosophy and are informed that the 30 SW is committed to implementing the ALARA concept.

A3.3.5. Authorized Users:

A3.3.5.1. Coordinate with the Base RSO to develop ALARA procedures to working with ionizing radiation producing materials or devices.

A3.3.5.2. Instruct each worker in the ALARA concept and its relationship to working procedures and work conditions.

A3.3.5.3. Review work practices and procedures to ensure all exposures are ALARA.